

Team Project 3 Report

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## 1. OBJECTIVE

*NOTE: Please consider this more as an artist statement than scientific document, however the GOAL of the report, which is to be able to recreate the image, is preserved.*

***Liquid Gold (2015, 1:50)***

**Video, no sound**

<https://vimeo.com/147557742>

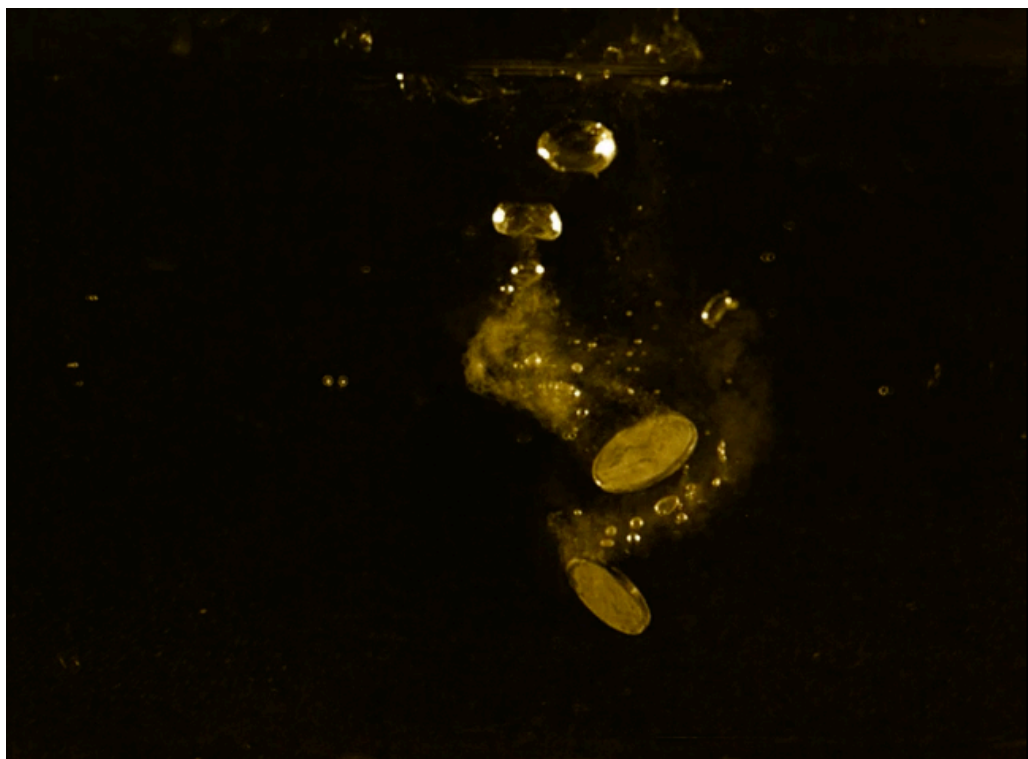


Image 1. Still frame from the video

Give the context and purpose for the image, exp. group working on flume

*Liquid Gold* is the first of four videos on the topic of water as a natural resource and the "next oil."

In western society thirst can be easily satisfied and our personal access to clean water is if not abounding then sufficient in most areas. However with the climate change and ever growing consumption and the river and ground water sources being in constant danger from pollution, I would like to show water as VALUABLE by using the engaging aesthetics

of flow visualization in slow motion and metaphorical application of color most associated with monetary value; GOLD.

*Liquid Gold*, first of the four videos captures in slow motion the process of four coins falling to through the water.

## 2. PROCEDURE

Image 2 shows the setup using the Olympus iSpeed 1GB high-speed video camera. To control the camera it was necessary to use an external LCD screen connected to the camera via VGA cable and the proprietary remote control.

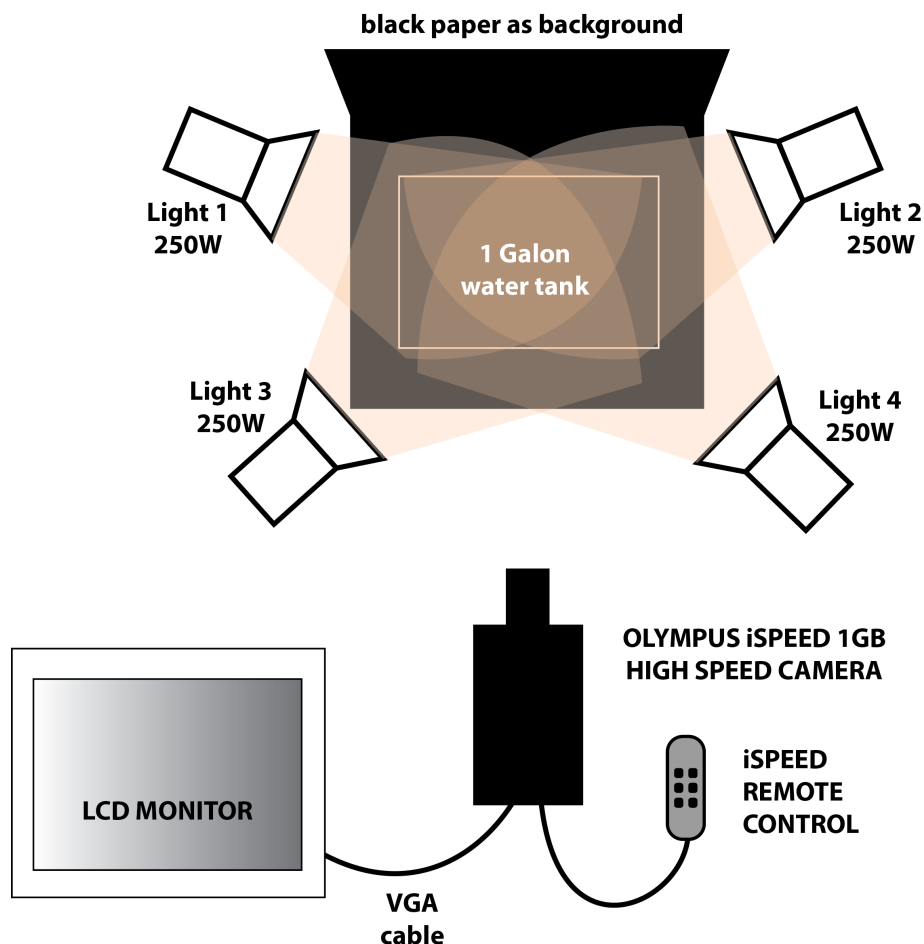


Image 2. Setup for Team Project 3 (top view)

Once the camera and lights were setup is used four coins of different denominations and dropped them into the water in the 1 Gallon tank from about three inches above the water. First two and followed by two more.

In order to make the flow more visible each coin was dipped in yellow tempura paint then immediately dropped into water. Thin layer of wet paint as it dissolved in water as the coin traveled to the bottom leaving a particle trail in its wake.

The most interesting part of the video however are the bubbles of air.

### 3. SETUP

#### Materials Used

- Olympus iSpeed 1GB high-speed video camera with remote
- LCD Screen
- Tripod
- 250 Watt Lowel Pro-Light Focusing Floodlights (4) (Tungsten Balanced)
- 1 Gallon Fish Tank
- Four coins (penny, nickel, dime and a quarter)
- Pro Art Liquid Tempera Poster Paint (Water Soluble)



Image 3. Photo of the setup for Team Project 3

### 4. CAPTURE

I used Olympus iSpeed 1GB a specialized high-speed video camera to capture the coins falling through water. Using this specialized camera that can shoot up to 10,000 fps represented to me a potential to show a more interesting image. The ability to slow down the process that normally takes less than a second and examine it in detail revealing also it's inherent elegance and aesthetic quality.

This video was shot at **800 fps**. High frame rate required more light, reduced duration of the video you could take to less than 2 seconds and recorded video was lower resolution, so 800 fps was the optimal balance of speed, quality in available light (approx. 1000 watts).

### Camera settings for Olympus iSpeed

- Size of the field of view: large depth of field because it's a wide lens
- Distance from object to lens: 5-6 ft
- Lens focal length and other lens specs: prime 75mm lens
- Type of camera: digital video
- Image resolution (width and height in pixels): 800x600 px (WVGA)

### Exposure specs for Olympus iSpeed

- Aperture: 1.4 f-stop
- Shutter speed: designated on the camera as 2x (see below explanation)
- Based on the manual: The default shutter time is equal to the frame time, but this may be reduced by this control. The shutter time is measured as the ratio between frame time and shutter time, e.g. x10 means that the shutter is open for 1/10 of the frame period. The shutter period may range from the frame period (x1) to 1/200 of the frame period (x200).
- ISO setting: this camera has a fixed ISO rate (not listed)

### Post production

I did not do a lot of postproduction for this video.

Video was edited in Adobe Premiere and only two changes from the original video (see Image 4) were to the **contrast** and **color** of the image.

The contrast was increased using Levels effect to make the background as black as possible.

Color, which plays an important role in the meaning of the image titled Liquid Gold, was shifted from yellow to gold using Blend Mode MULTIPLY under Opacity options and a gold texture JPEG image (see Image 5).

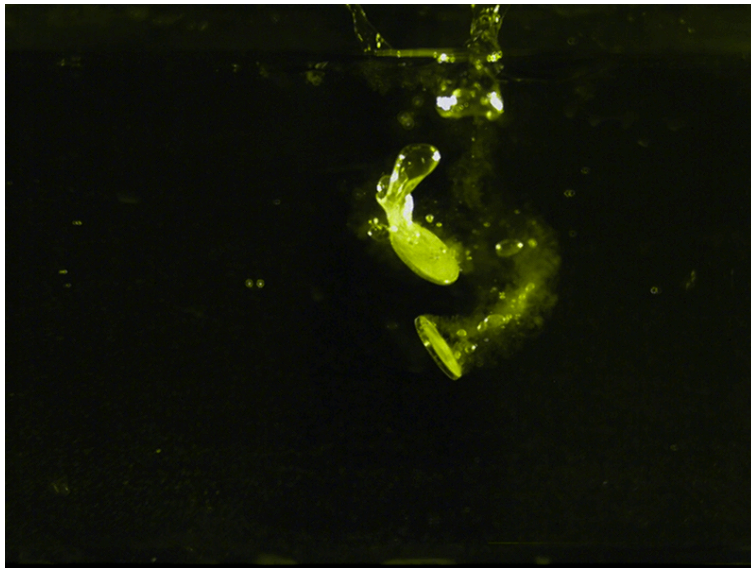


Image 4. Still from the original video



Image 5. Gold texture blended with the video

## 5. Reflections

The first in a series of four videos came out well but the process of working with this camera is very tedious and its limitations, such as only capturing at 800 fps about 3 seconds before OVERWRITING previous video are highly problematic. For the rest of the series I will be using a different camera, probably Sony NEX-FS700.

I don't recommend the Olympus iSpeed Camera for shooting high-speed video. To learn little more about experiments with couple other options see my short video showing comparison of slow motion video captured with iPhone 6, GoPro and iSpeed.

Here is the link: <https://vimeo.com/145249866>